

## CLAIMS

### What is claimed is:

1. A method of using a communications device to access an on-line service provided by a network server, the method comprising:

accessing a proxy server based service in order to obtain information required by the network server in order to process a request to access the on-line service; and

sending the information to the network server via a secure connection with the network server.

2. A method as claimed in claim 1, further comprising determining what information is required by the network server in order to process the request.

3. A method as claimed in claim 2, wherein determining what information is required by the network server comprises:

sending the on-line request to the network server in a secure manner; and

receiving a response to said request, said response being indicative of the required information.

4. A method as claimed in claim 3, wherein accessing the proxy based service includes forwarding said response to the proxy server for processing.

5. A method as claimed in claim 3, wherein the request is sent via a secure connection with the network server and the proxy server is accessed via a connection with the proxy server, the method comprising establishing the connection with the proxy server prior to establishing the connection with the network server.

6. A method for a proxy server to provide a proxy server based service to a communications device, the method comprising:

receiving a request from the communications device to access the proxy server based service;

processing said request; and

sending the result of said processing to the communications device for forwarding to a network server via a secure connection previously established between the communications device and the network server.

7. A method as claimed in claim 6, wherein the request is the form of a response previously generated by the network server in reply to a request by the communications device to access an on-line service provided by the network server, the method then comprising providing a protocol to understand said response.

8. A method for a network server to provide an on-line service to a communications device, the method comprising:

receiving a request from the communications device to access the on-line service;

generating a response to said request, the response indicating additional information that is required by the network server in order to process



11. A communications device as claimed in claim 10, wherein the code to access the proxy server based service comprises instructions to establish a connection with the proxy server, said instructions being executable before the instructions to establish a connection with the network server.

12. A communications device as claimed in claim 11, wherein the code to access the proxy based service comprises:

instructions to create a proxy service request based on the response from the network server; and

instructions to send the proxy service request to the proxy server via the connection with the proxy server.

13. A communications device as claimed in claim 11, wherein the code to access the proxy based service includes instructions to forward the response from the network server to the proxy server via the connection with the proxy server.

14. A proxy server comprising:

a processor; and

a memory device, having stored therein a code, which when executed by the processor causes the proxy server to:

receive a request from a communication device to access a proxy server based service

process the request; and

send the result of said processing to the communications device for forwarding to a network server via a secure connection previously established between the communications device and the network server.

15. A proxy server as claimed in claim 14, wherein the code has portions which when executed perform a sequence of steps corresponding to a particular proxy service, the code further comprising instructions to execute a portion of the code corresponding to a particular proxy service based on the request from the communications device.

16. A proxy server as claimed in claim 14, wherein the memory device further comprises a protocol stored therein to enable the processor to understand the request from the communications device, in the event of said request being generated by an network server.

17. A network server, comprising:  
a processor; and  
a memory device having stored therein executable code, which when executed by the processor causes the network server to  
receive a request from a communications device to access an on-line service resident on the network server;  
generate a response to said request, the response indicating what additional information is required by the network server in order to process said request and said response being in a format which is understandable by a proxy server associated with the communications device; and  
send the response to the communications device.

18. A machine readable program storage medium, having stored therein executable code, which when executed on a communications device,

performs a method of using the communications device to access an on-line service provided by a network server, the method comprising:

accessing a proxy server based service in order to obtain information required by the network server in order process a request to access the on-line service;

sending the information to the network server via a secure connection with the network server.

19. A machine readable program storage medium as claimed in claim 18, wherein the method further comprises includes first determining what information is required by the network server in order to process the request.

20. A machine readable program storage medium as claimed in claim 19, wherein determining what information is required by the network server comprises:

sending the request to the network server in a secure fashion;

receiving a response to said request, said response being indicative of the required information.

21. A machine readable program storage medium as claimed in claim 20, wherein accessing the proxy based service comprises forwarding said response to the proxy server for processing.

22. A machine readable program storage medium, as claimed in claim 21, wherein the on-line service request is sent via a secure connection with the network server and the proxy server is accessed via a connection with the proxy

server, the method comprises establishing the connection with the proxy server prior to establishing the connection with the network server.

23. A machine readable program storage medium, having stored therein executable code, which when executed on a proxy server, performs a method for the proxy server to provide a proxy server based service to a communications device, the method comprising:

receiving a request from the communications device to access the proxy server based server;  
processing said request; and  
sending the result of said processing to the communications device.

24. A machine readable program storage medium as claimed in claim 23, in which the request is in the form of a response generated by a network server in reply to a request from the communications device to access an on-line service provided by the network server, the method then comprising providing a protocol to understand said response.

25. A machine readable program storage medium, having stored therein executable code, which when executed by a network server, performs a method for the network server to provide an on-line service to a communications device, the method comprising:

receiving a request from the communications device to access the on-line service;

generating a response to said request, the response indicating what additional information is required by the network server in order to process

said request, said response being in a format which is understandable by a proxy server associated with the communications device; and

sending the response to the communications device.

26. A communications device comprising:

means for allowing a user to input a request to access an on-line service provided by a network server;

means for determining whether additional information is required by the network server in order to service the request;

means for accessing a proxy server based service in order to obtain any additional information required by the network server; and

means for sending a request to the network server, said request including the additional information.

27. A proxy server comprising:

means for receiving a request from a communications device;

means for processing the request; and

means for sending the result of said processing to the communications device for forwarding to a network server via a secure connection previously established between the communications device and the network server.



28. A method of using a communications device to access an on-line service provided by a network server, the method comprising;

- establishing a connection between the communications device and a proxy server, the proxy server being configured to provide a proxy based service to the communications device;
- establishing a secure connection between the communications device and a network server;
- sending a request for information to the network server via the secure connection;
- receiving a reply to the request from the network server, the reply being indicative of additional information required by the network server in order to process the request;
- using the connection between the communications device and the proxy server to access the proxy server based service, the service being able to provide the additional information;
- receiving the additional information from the proxy server via the connection therewith; and
- sending an enhanced request to the network server via the secure connection therewith, the enhanced request including the additional information.

29. A method for a proxy server to provide a proxy based service to a communications device, the method comprising:

- receiving a request from the communications device to access the proxy server based service;

- processing said request by generating an enhanced request including additional information provided by the proxy server based service, the additional information being required by a network server in order to service a request for

information sent by the communications device via a previously established secure connection with the network server; and

sending the enhanced request to the communications device for forwarding to the network server via the previously established secure connection.

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